

Navy Personnel Research and Development Center

San Diego, California 92152-6800

TN-92-3

October 1991



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AD-A242 519



**Military Recruiter
Selection Research:
An Annotated Bibliography
and Implications**



Marjorie M. Sands

91-14547



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Marjorie M. Sands

Reviewed, approved, and released by
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REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE October 1991	3. REPORT TYPE AND DATE COVERED Final--1946-1990	
4. TITLE AND SUBTITLE Military Recruiter Selection Research: An Annotated Bibliography and Implications		5. FUNDING NUMBERS Program Element 0603720N Work Unit R1772	
6. AUTHOR(S) Marjorie M. Sands			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Navy Personnel Research and Development Center San Diego, California 92152-6800		8. PERFORMING ORGANIZATION REPORT NUMBER NPRDC-TN-92-3	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) Chief of Naval Personnel (PERS-23), Navy Department, Washington, DC 20350-2000		10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES			
12a. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.		12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) This report contains an annotated bibliography of research sponsored by the Department of Defense in the area of selecting military recruiters during the period 1946-1990. The bibliography is followed by a summary of the major implications of the research.			
14. SUBJECT TERMS Recruiters, selection, quality of life, career development, goaling, job analysis		15. NUMBER OF PAGES 27	
		16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT UNCLASSIFIED	18. SECURITY CLASSIFICATION OF THIS PAGE UNCLASSIFIED	19. SECURITY CLASSIFICATION OF ABSTRACT UNCLASSIFIED	20. LIMITATION OF ABSTRACT UNLIMITED

FOREWORD

This report contains an annotated bibliography of research related to selection of U.S. military recruiters during the period 1946-1990; the bibliography is followed by a brief summary of the major implications of this research. The purpose of the report is to bring together in one document the many and diverse avenues of research that have been conducted over the years in support of assigning the best possible recruiters to the field. It is expected to benefit both the operational and research communities.

This effort was funded under Program Element 0603720N, work unit R1772, sponsored by the Chief of Naval Personnel (PERS-23).

Any questions about this technical note can be directed to Dr. Herbert Baker at the Navy Personnel Research and Development Center, Code 16 (619) 553-7639 or AUTOVON 553-7639.

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INTRODUCTION

This report contains an annotated bibliography of recruiter selection research sponsored by the United States military services. The reports span the period 1946-1990. The bibliography is presented in chronological order; this was thought to most clearly portray the overall pattern of development in this research area. The bibliography is followed by a brief summary of the implications of the research in this area. This bibliography and summary provides ideas and directions for future research.

MILITARY RECRUITER SELECTION RESEARCH: AN ANNOTATED BIBLIOGRAPHY AND IMPLICATIONS

Brogden, H. E. (July 1946). *The development of instruments for the selection of enlisted personnel for recruiting work*. Washington, DC: Army Adjutant General's Office, Personnel Research Section. (AGO-PRS-693)

This report covers an early attempt by the Army to identify a means of selecting enlisted personnel to serve as recruiters. The criterion in this study was a measure of production: the number of recruits produced per hour on recruiting duty; this index was used to identify the top and bottom thirds of recruiters on duty. In addition, a three-point performance rating was obtained from recruiters' supervisors; this performance rating was thought to be a check on the production criterion. Predictor variables were a Recruiter Self Description Blank (activity preferences, favored reading materials, and self-description items), and the Preference Record (a form of the Kuder Preference Record adapted for Army use). Complete data were available for 555 men in the top third of recruiters, and 520 in the bottom third.

Using 300 men from each of the criterion groups, items were selected to form a trial selection test. This trial test was then cross-validated using the remaining subjects (255 top-third recruiters and 220 bottom-third recruiters). Point biserial correlations between various combinations of items and top vs. bottom third of recruiters were all .15 or lower. Brogden notes that: (1) the production criterion has many sources of inherent error that could lower the obtained validities, and (2) since a selectee (rather than applicant) population was studied, some restriction in range probably exists. The final recommendation was that the questionnaire should be used only in situations where selection could be restricted to scores in the top 5 percent, or that the instrument not be used at all.

Brogden, H. E., & Taylor, E. K. (April 1949). *The validity of recruiter selection instruments at various points of cut*. Washington, DC: Army Adjutant General's Office, Personnel Research Section. (AGO-PRS-781)

Brogden and Taylor (1949) re-examined the results of Brogden's earlier study (1946). The hypothesis in the present work was that the low validity (.20) found in the initial study was due to the unreliability of the production criterion (number of recruits obtained by each recruiter per hour on recruiting duty) and to the contamination potentially present in such global objective indices. The re-analyses employed a dichotomous criterion of retention vs. non-retention on recruiting duty (essentially a measure of turnover). When the turnover criterion was applied to the summed scores of the original four predictor inventories, it yielded a biserial validity coefficient of .36.

The authors recognized that, like the production criterion, the turnover criterion also contained some extraneous factors unrelated to recruiter effectiveness (e.g., completing tour of duty, requesting transfer). However, the new criterion yielded a higher validity. This could be due in part to the relatively low reliability and significant contamination associated with the production criterion; another possibility is that Brogden's predictor measures are simply better predictors of turnover than they are of performance.

Brogden, H. E. (March 1950). *Validation of the recruiter selection program*. Washington, DC: Army Adjutant General's Office, Personnel Research Section. (AGO-PRS-842)

This study evaluated the utility of two biodata-based sales adaptability instruments and a semi-standardized interview for predicting recruiter success, as measured by number of recruits enlisted per month and performance ratings by peers and supervisors. Complete data were obtained for 185 recruiters on duty in the northeast in May 1949. The sales adaptability tests showed low but significant validities (.18 and .24). Findings regarding the interview were regarded as contaminated because interviewers were found to have been knowledgeable about recruiters' performance; this validity coefficient (.54) was considered to be meaningless. It was concluded that the sales tests have only low validity in predicting recruiter success and that the validity of the interview remained undetermined.

Campbell, J. T., Johnson, C. D., Goldstein, L. G., & Stewart, C. A., Jr. (August 1952). *Prediction of success in the recruiter course* (PRS Report 985). Washington, DC: Army Adjutant General's Office, Personnel Research Section.

This work, which was part of a series of studies designed to evaluate the effectiveness of the Army Classification Battery (ACB) for predicting success in various Army schools, investigated the value of the ACB for predicting success in recruiter school. Subjects were 53 enlisted men who had been on recruiting duty and were being sent to the advanced 4-week recruiter course. Predictors used were: (1) scores on each of the 10 tests of the ACB, (2) each of the 10 Aptitude Area composites, (3) various additional composites of ACB tests drawn from a standard matrix of subtest intercorrelations, and (4) four background variables. The criterion was the grade received in the recruiter course.

Correlations between each ACB test and final grade in the advanced recruiter school, which were corrected for restriction in range in the predictor, varied between .37 and .74. Corrected correlations between each ACB Aptitude Area and final grade ranged between .68 and .80. Additional correlations between various two-test composites and final school grade did not improve upon the existing selection composite. Background variables did not add to the effectiveness of ACB scores for predicting recruiter school success.

Borg, W. R., Zaccaria, M. A., & Weaver, D. O. (1956). A preliminary validation of a USAF recruiting salesman selection battery. In Finch, G. and Cameron, F. (Eds.), *Air Force Human Engineering, Personnel, and Training Research* (ARDC Tech. Rep. 56-8). Baltimore: Air Research and Development Command. (Reported in Wollack & Kipnis, 1960.)

As reported in Wollack and Kipnis (1960), this study attempted to predict supervisory performance ratings for Air Force recruiters, using interest, personality, aptitude, and biodata measures

as predictors. Three biodata keys (gregariousness, aspiration level, and urban environment) were related to recruiter performance. Seven personality scales (not all reported) were found to be significantly related to supervisors' ratings of recruiter performance. Those reported were Coercion (-.34) and Competition (.45); recruiters who scored higher on Coercion tended to have lower performance ratings, while those who scored higher on Competition tended to have higher performance ratings.

Wollack, L., & Kipnis, D. (March 1960). *Development of a device for selecting recruiters* (Tech. Bulletin 60-1). Washington, DC: Bureau of Naval Personnel.

This study was an attempt to develop an objective instrument (or battery) that would, in comparison to the existing highly subjective procedure, significantly increase the probability of identifying potentially successful Navy recruiters. The design was to use a concurrent validation approach in the development sample, followed by a predictive validity study for cross-validation. Predictors were: (1) four measures of fluency of expression, (2) three measures of knowledge of, and enthusiasm for, the Navy, (3) two measures believed to assess interest in recruiting activities (Kuder Preference Record and Sports Rules Inventory); and (4) Basic Test Battery (BTB) scores. Criteria in both samples were supervisors' ratings. In the development study, successful recruiters were found to be high on Kuder's Persuasive scale and low on Artistic, Outdoor, and Scientific scales. No significant differences between high and low groups were observed for background variables. Several items from the other predictors were identified for further study in the cross-validation sample.

Results of cross-validation suggest that a successful recruiter is persuasive, has little academic interest, and believes in the value of a Navy career. It was concluded that the Kuder Persuasive Scale may have value as a screening instrument in recruiter selection. However, the real utility of this finding would be mainly dependent on selection ratio.

Wilkenson, J. M. (1964). *Development of a device for selecting Coast Guard recruiters* (Master's thesis). Monterey, CA: Naval Postgraduate School. (Reported in Graham, et al., 1979.)

This Master's thesis done at the Naval Postgraduate School investigated the utility of the Lee-Thorpe Occupational Interest Inventory, and the Edwards Personal Preference Schedule (EPPS) for predicting Coast Guard recruiter success. Subjects were 38 Coast Guard recruiters. Criteria were supervisors' rank-ordering of recruiters and the percent of quota accomplished by each recruiter.

Five significant correlations were found between EPPS scales and performance criteria. Four of these were significant at the .01 level (Aggression: .54, Exhibition: .40, Abasement: -.53, and Affiliation: -.50). The fifth correlation (Nurturance: -.32) was significant at the .05 level. Wilkenson concluded that the selection ratio was too high for correlations of this magnitude to be operationally useful.

Massey, I. H., & Mullins, C. J. (February 1966). *Validation of the recruiter-salesman selection test (PRL-66-2)*. Lackland Air Force Base, TX: Personnel Research Laboratory, Aerospace Medical Division, Air Force Systems Command.

This study sought to develop a Recruiter-salesman Selection Test to supplement the personal interview and formal application already in use. To meet an immediate operational need, an interim version was produced through concurrent validation of seven types of predictors: (1) self-report inventories, (2) language ability, (3) community information, (4) Airman Preference Test (activities, etc.), (5) personality scales (complexity, ego strength, and introversion), (6) word power, and (7) a social insight test. A combination of community information, surgency (friendliness, etc.) and, language ability yielded a multiple point-biserial correlation of .34 against recruiter school graduation vs. non-graduation. These three measures formed the interim battery.

In the cross validation sample, no combination of variables was found to predict school success better than the interim battery. No combination of variables was found to predict field success at the .05 level. The authors conclude that: (1) some success can be achieved in predicting recruiter school success; and (2) it is doubtful that any predictor will be found to be valid against field success, probably due to problems with criterion measurement.

Maier, M. H. (April 1971). *Analysis of Army recruiting system--Selection and training (BESRL-RM-71-2)*. Alexandria, VA: Army Behavioral and Systems Research Laboratory.

The goal in this work was to develop a means of identifying potential recruiters whose performance would be unsatisfactory. A concurrent design was used to assess the validity of the Recruiter Self-Description Blank (R-SDB) for predicting supervisors' ratings of recruiter performance. The correlation between R-SDB scores and ratings of recruiter performance was about .20, leading the author to conclude that R-SDB scores are not especially good measures of potential success as a recruiter. However, Maier goes on to point out that the real operational utility of such a validity is related to the size of applicant pool in comparison to spaces to be filled, and the cost of putting a bad recruiter in the field vs. the cost of eliminating a potentially good recruiter. Maier further suggests that a complete investigation of this problem area should begin with a thorough analysis of the duties and dimensions of the recruiting job.

Krug, S. E. (November 1972). *Psychological and demographic predictors of success as a naval recruiter*. Washington, DC: Navy Recruiting Command. (Reported in Borman, et al., DPRDC 79-17).

Krug's experimental predictor battery included: (1) the 16 Personality Factor (16PF) inventory, (2) a lie scale, (3) an achievement motivation scale, and (4) seven biographical items. The criterion was recruiting station commanding officers' identification of best and poorest recruiters. Stepwise multiple regression in the enlisted sample produced a multiple correlation of .40 ($p < .01$); when the same equation was cross-validated in the officer sample, a multiple correlation of .25 was obtained ($p < .05$). Specifically, these results suggest that an effective Navy recruiter is married, comparatively well educated, warm and outgoing, dominant, aggressive, self-assured, and relatively conservative politically.

Borman et al. (1979) point out that a weakness of this work is that marital status has been assigned a high positive weight in the prediction equation, even though only 13 of the 383 enlisted recruiters in the sample were unmarried. In an actual selection situation, a predictor with a more balanced base-rate would be more useful.

Bennett, J. T., & Haber S. E. (June 1973). *Selection, deployment, and evaluation of Marine recruiters* (SERIAL-T-277). Washington, DC: The George Washington University Program in Logistics.

Bennett and Haber hypothesized that three classes of variables influence individual recruiter productivity. Selection variables included: GCT score, age, race, education, volunteer/non-volunteer to recruiting duty, previous experience as a career planner or drill instructor, number of dependents, and perception of recruiting duty as a financial hardship. Deployment variables included: distance of recruiting duty station from home of origin, urban vs. rural location of station, number of times reassigned while on recruiting duty, hours worked per week, and time working out of office. Evaluation variables included: months on recruiting duty and percentile rank in recruiter class.

In an attempt to compensate for the known effect of regional differences in recruiting success, the sample was divided into recruiters from high-propensity areas and recruiters from low-propensity areas. Separate regression equations were developed in each group. In general, few predictor variables were significant in either equation. In low-propensity areas, it was observed that recruiters who have previously been career planners have higher production than recruiters without that experience, and that recruiters who view their duty as a financial hardship produce fewer recruits than recruiters who do not perceive financial hardship. Results in high-propensity areas suggest that recruiters stationed near their hometowns have higher production than recruiters stationed more than 500 miles from their homes, recruiters in urban or suburban stations have higher production than recruiters in rural areas, and recruiters who have been frequently reassigned produce fewer recruits than recruiters who have not been frequently reassigned.

Although few significant predictors of recruiter performance were identified, Bennett and Haber caution that it should not be concluded that these variables do not influence recruiter productivity. The authors suggest that minimum requirements (which occasion restriction in range of the predictors) and multicollinearity of some variables (e.g., age and rank) may weaken predictive strength. The authors conclude that, within recruiting markets, improved selection and deployment of recruiters can lead increased productivity. This would suggest that, in addition to selection of recruiters, specific consideration should be given to where each recruiter might be most productively assigned.

Abrahams, N. M., Neumann, I., & Rimland, B. (April 1973). *Preliminary validation of an interest inventory for selection of Navy recruiters* (NPTRL SRM-73-3). San Diego: Naval Personnel and Training Research Laboratory.

These researchers used the Strong Vocational Interest Blank (SVIB) to predict most and least effective recruiters as identified by recruiting station commanding officers. SVIB responses were collected from 356 recruiters. Randomly selected cases (178) were set aside to use for cross validation; the other 178 cases were used as a development sample.

In the development sample, those SVIB items which showed significantly different response patterns between most effective and least effective recruiters were response-weighted, and included in a scale called the SVIB Recruiter Interest Scale (RIS-1). During cross validation, the 178 "holdout" SVIBs were scored using the scale and weights established in the development sample; the resulting scores were arranged from highest to lowest and divided into four groups.

The top group of RIS-1 scores contained about three times as many effective recruiters as the bottom RIS-1 group. These results suggest that if people with the lowest RIS-1 scores were eliminated from consideration, significantly fewer ineffective recruiters might be sent to the field. Abrahams, et al. note that this would only be realistically possible if a smaller selection ratio could be employed, and offer suggestions for expanding the applicant pool. The authors also suggest further work to include: (1) biographical information as a predictor of recruiter success, (2) further development and evaluation of the SVIB, and (3) efforts to develop a better criterion measure of recruiter performance.

Best, J. B., & Wylie, W. J. (June 1974). *U.S. Navy recruiter attributes and attitudes: A survey analysis (Master's thesis)*. Monterey, CA: Naval Postgraduate School.

This thesis was based on personal interviews with 49 recruiters within the San Francisco, California recruiting district. The authors hypothesized that recruiter characteristics could be combined to predict recruiter performance as rated by commanding officers. Predictor data included such things as enlisted pay grade, previous duty assignment, father's occupation, age, years of education, etc. Although a multiple regression significant at the .05 level was developed in the original group, the equation failed on cross-validation.

Arima, J. K. (April 1976). *A systems analysis of Navy recruiting* (NPRDC-SR-76-9). San Diego: Navy Personnel Research and Development Center.

The primary focus of this work was to provide an integrated and comprehensive systems analysis of the process of Navy recruiting. This report, now almost 15 years old, is still very helpful in understanding the "big picture" of Navy recruiting. Although the work is primarily descriptive, Arima makes a number of recommendations for future research. Two of these recommendations are related to the selection of recruiters. First is a call to develop better measures of recruiter productivity. Arima's suggestions cluster around differential recruiting "credit" for different types of recruits enlisted. In a related recommendation, Arima states that, "the development of a recruiter selection instrument must be preceded by thorough analysis of the position . . . it will also be necessary to obtain knowledge as to the types of behaviors that are necessary to carry out these functions. . . The method of developing behaviorally anchored rating scales could provide the desired list of behaviors. Knowledge of the job content and behaviors . . . should provide the material to develop a recruiter selection procedure. The selection procedure could then be validated against the index of recruiter effectiveness" (p. 129).

Borman, W. C., Hough, L. M., & Dunnette, M. D. (February 1976). *Development of behaviorally based rating scales for evaluating the performance of U.S. Navy recruiters* (NPRDC-TR-76-31). San Diego: Navy Personnel Research and Development Center.

Borman and his colleagues, under contract to the Navy Personnel Research and Development Center, produced reliable, valid indices of recruiter performance. The first step in this work was to bring together recruiters and supervisors, who generated over 800 examples of "critical incidents" in recruiter behavior. Over the course of the research, these behavioral examples were coded into over-arching performance dimensions; to ensure reliability, this was done both intuitively by several sets of raters and statistically by use of multidimensional scaling techniques. In addition, behavioral examples were identified as to the level of performance that each represented within its own performance dimension. Eight behavioral rating scales were developed, representing the following dimensions of the recruiter's job: (1) locating and contacting prospects, (2) gaining and maintaining rapport, (3) obtaining information from prospects and making good person-Navy fits, (4) salesmanship skills, (5) establishing and maintaining good relationships in the community, (6) providing knowledgeable and accurate information about the Navy, (7) administrative skills, and (8) supporting other recruiters and the command. These behaviorally anchored rating scales were the first step in a series of studies Borman and his colleagues conducted to develop a recruiter selection instrument for the Navy.

Arima, J. K. (June 1978). *Determinants and a measure of Navy recruiter effectiveness* (NPRDC-TR-78-21). San Diego: Navy Personnel Research and Development Center.

The purpose of this work was to identify those variables which influence recruiter productivity, and to develop an objective measure of individual recruiter productivity that could be used in further research. The approach was to develop an equation to predict expected production, based on characteristics of a recruiter's geographic area. This expected production would be due to factors beyond an individual recruiter's control (economic conditions, percent of high school students going on to college, etc.). Differences from this expected production would reflect actual production differences between recruiters. Results indicate that total productivity is explained in approximately equal proportions by differences in recruiters and by differences in recruiting area.

Brown, G. H., Wood, M. D., & Harris, J. D. (May 1978). *Army recruiters: Criterion development and preliminary validation of a selection procedure* (ARI-TR-78-B6). Alexandria, VA: U.S. Army Research Institute.

The objectives in this research were to develop a valid criterion measure of recruiter effectiveness and to develop a selection instrument to identify potentially successful recruiters. Two types of data were collected for 400 recruiters: (1) total production for each recruiter for 6 months, and (2) regional characteristics that might influence recruiter production (e.g., unemployment rate, ethnic mix, average community educational level, median family income, etc.).

A multiple regression equation was developed to predict average recruiter production based on area characteristics. It was found that regional differences account for 48 percent of the variance in recruiter production; average market share (popularity of Army vs. other services) accounted for

an additional 2 percent. A Simple Achievement Score (SAS) could then be calculated for each recruiter; this score would indicate each recruiter's production as a percentage of average production in his area.

An experimental selection battery was developed which includes measures of verbal fluency, sociability, achievement motivation, empathy, rejection tolerance, and responsibility-maturity. The criterion development work was not yet complete, so two extreme groups (best and poorest recruiters in the country) were used. No personality measures or Army personnel data discriminated significantly between the criterion groups. A few individual items did show promise in differentiating between the two groups, but time and funding constraints did not permit cross-validation.

Graham, W. R., Brown, G. H., King, W. L., White, L., & Wood, M. D. (March 1979). *A pilot study of Army recruiters: Their job behaviors and personal characteristics* (ARI-TR-79-B2). Alexandria, VA: U.S. Army Research Institute.

With the beginning of the All Volunteer Force, the Army instituted a long-range research program to maximize the effectiveness of recruiter selection and training procedures. The objective of this particular study was to generate hypotheses related to personal characteristics and behaviors associated with recruiter success. Results of structured interviews suggested that, in comparison to low producers, high producing recruiters were: (1) less likely to cite independence as a source of job satisfaction, (2) more likely to complain about long work hours, (3) less likely to report communication problems, and (4) less likely to describe themselves as empathic and not easily irritated.

Borman, W. C., Toquam, J. L., & Rosse, R. L. (May 1979). *An inventory battery to predict Navy and Marine Corps recruiter performance: Development and validation* (NPRDC-TR-79-17). San Diego: Navy Personnel Research and Development Center.

The objective of this work was to develop and validate paper-and-pencil predictors of Navy and Marine Corps recruiter effectiveness as measured by behaviorally based rating scales previously developed by Borman et al. (1976). A predictor battery was assembled, including measures of personality, vocational interests, and personal background. Predictor scores from 329 Navy recruiters and 118 Marine Corps recruiters were collected, along with supervisory, peer, and self ratings of performance, plus actual number of recruits enlisted (production data). Factor analysis of the ratings suggested three underlying dimensions of recruiter performance: selling skills, human relations skills, and administrative skills. These three factors, along with a summary factor (overall performance), plus the production scores, served as criterion measures. Predictor composites were developed for sales skills, human relations skills, administrative skills, and overall performance. Cross validities for these predictor composites and their associated criterion measures were all significant at the .01 level in the Navy sample and the .05 level in the Marine Corps sample.

Shupack, M. (June 1979). *An analysis of the cost implications of employing success predictive criteria in the process of selecting Navy recruiters* (Master's thesis). Monterey, CA: Naval Post-graduate School.

The goal in this thesis research was to identify readily available (i.e., in routine Navy records) predictors of recruiter success. Subjects were 1262 production recruiters in the field during the study period (August 30, 1975 through December 1, 1976). "Success" was defined as remaining

on recruiting duty throughout the 20-month period of the study and being named on the Recruiting Honor Roll three or more times (three was the median number of times people appeared on the Honor Roll). Recruiters who remained on duty throughout the study but who were on the Honor Roll fewer than the median number of times were designated as mediocre recruiters. Those who, for any reason did not remain on duty the entire 20 months were designated as recruiting failures. Predictors to be evaluated were: pay grade, level of education, time on active duty, GAMX score (a composite ability score which includes general comprehension, verbal, arithmetic, and mechanical skills), score on a sales aptitude test, Navy rating (job specialty), and age.

Regression analyses indicate that Navy rating was the best predictor of recruiting failure; recruiters from primarily sea-going rates (deck and engineering specialties) were not likely to successfully complete recruiting tours. Level of education was shown to be the best single predictor of recruiter success; increases in level of education suggest increased frequency of recruiting success. Findings are discussed in terms of costs to the Navy Recruiting Command (personnel, acquisition, training, separation, turnover, and non-productive assignments).

Borman, W. C., Rosse, R. L., Toquam, J. L., & Abrahams, N. M. (September 1981). *Development and validation of a recruiter selection battery* (NPRDC-TR-81-20). San Diego: Navy Personnel Research and Development Center.

This report covers the third phase of the work reported previously by Borman and his colleagues (Borman, Hough, & Dunnette, 1976 and Borman, Toquam, & Rosse, 1979). The focus in this stage of the work was to expand and refine the predictor battery and to assess its validity for predicting success in various dimensions of the recruiter job. Additional experimental items were included in the predictor battery based on their hypothesized relationship to various personality constructs assessed by the earlier version of the battery. Measures of success were recruiter production over a 6-month period, and the four dimensions of performance identified in earlier work (sales skills, human relations skills, organizing skills, overall performance). The revised battery was administered to 194 recruiters. Correlational analysis indicated that approximately one half of the new items enhanced intended personality constructs, and that scales derived from those constructs predicted recruiter productivity and ratings on overall recruiter performance.

Coleman, F. D. (November 1981). *An analysis of the career transitions of U.S. Army recruiters* (USARCPAE-RE-SR-81-4). Fort Sheridan, IL: U.S. Army Recruiting Command, Research Studies and Evaluation Division, Program Analysis and Evaluation Directorate.

Coleman's study is essentially an operations research approach to design a model for the U.S. Army Recruiting Command to use in hiring personnel to meet long-range requirements. Although Coleman's work had as its main aim the construction of a mathematical model, some of his observations are very interesting: (1) a Staff Sergeant/E-6 has only a 50 percent chance of remaining a field recruiter 18 months or more after initial assignment; (2) a Sergeant/E-5 has only a 40 percent of being a recruiter for more than 1 year; (3) the greatest losses among first-tour recruiters occur among Sergeants/E-5s or Staff Sergeants/E-7s without high school diplomas; and (4) 30 percent of Coleman's cohort was lost before completion of a 3-year tour because of ineffective performance, poor conduct, or requesting a transfer out of recruiting.

Borman, W. C. (February 1982). Validity of behavioral assessment for predicting military recruiter performance. *Journal of Applied Psychology*, 67(1), 3-9.

This article describes an experimental assessment center designed to predict success as an Army recruiter. Subjects (those people being assessed) were 57 soldiers entering recruiting school. Assessors were 16 experienced, successful Army recruiters with no previous training as assessors; to prepare them for their task, they attended a 2-day training workshop. Recruiting students' performance was evaluated in five exercises: cold calls, interviews with a prospect, interview with a concerned parent, 5-minute speech about the Army, and an in-basket problem. Students were also rated in terms of first impression, likability, attractiveness, and results of a structured interview covering such things as achievement motivation, potential as a self-starter, and commitment to the Army. Two criterion measures were used: (1) Phase 1 training exam scores (primarily academic mastery of prospecting and selling techniques), and (2) Phase 2 training success (actual practice in the Phase 1 techniques).

Ratings on all five role-playing exercises were significantly related to Phase 1 training success; only ratings on the in-basket exercise were significantly correlated with Phase 2 training success. First impression, attractiveness, and likability ratings showed no significant correlations with criterion measures. Borman concludes that an assessment center program is reasonably successful in predicting performance in a recruiter training course; after correction for restriction in range, composite ratings have a correlation near .50 with training success. Operationally, a serious question would be the cost of an assessment center compared to the cost of other selection methods such as paper-and-pencil testing.

Elig, T., Gade, P. A., & Johnson, R. M. (May 1983). Recruiter and recruit demographic characteristics: A preliminary investigation of recruiter selection criteria. In Goodstadt, B. E., Sicilia, G. T., & Sinaiko, H. W., (Eds.). *Proceedings of the Joint-Service Workshop on Recruiter Productivity*. Office of the Assistant Secretary of Defense (Manpower, Reserve Affairs, and Logistics). Washington, DC.

Based on a belief that research aimed at identifying potentially successful recruiters based on biographical information, personality characteristics, and interest measurement has met with only limited success, and knowledge that Army recruiters must be selected from a largely non-volunteer pool, Elig and colleagues proposed a new approach to recruiter selection research. These authors see a need for research that will produce recruiter selection procedures based on: (1) readily available, stable, and secure predictors, and (2) available, objective, secure, criterion measures that are uncontaminated by regional differences in propensity to enlist. The Army's Enlisted Master File (EMF) was thought to provide such a set of predictors. The MEPS Reporting System (MRS) was thought to provide the desired measures of recruiter performance. The overall hypothesis is that recruiters recruit people who are demographically similar to themselves; thus data from the EMF might serve as an indicator of where a recruiter might be most successfully placed, rather than as a selection device. In general, the hypothesis was supported. Recruiters with post-high school education tend to recruit more enlistees with education beyond high school. Recruiters produce more enlistees of their own racial/ethnic background than other backgrounds (Black recruiters produce the most Black recruits, etc.). The authors note that this work is only correlational in nature; no causal inferences may be drawn. However, it is possible that the placement of recruiters may be as

important as selection criteria. A possibility for future research is investigation of the value of differential assignment of recruiters, based on specific consideration of recruiter and regional characteristics.

Weltin, M. M., Frieman, S., Elig, T., & Johnson, R. M. (November 1984). Predicting Army recruiters' job performance from development center ratings. *Proceedings of the 26th Annual Conference of the Military Testing Association*, Munich, Federal Republic of Germany.

This is a follow-on to Borman's (1982) work on evaluating the utility of an assessment center to predict success as an Army recruiter. It will be recalled that, after correction for restriction in range, composite ratings from the assessment center had a correlation near .50 with success in recruiter training. Weltin et al. worked with two sets of subjects to continue evaluation of the assessment center concept. One of the groups was composed of 41 of Borman's original 57 subjects; the criterion performance measure for these recruiters was the total number of enlistees generated during their first year as a recruiter. Predictor measures in this group included role-playing of cold calls and interviews, a 5-minute speech about the Army, an in-basket exercise, training school grades, instructor ratings, scores on the Navy recruiter selection test and scores on a personality test.

After Borman's early work in the assessment center, the focus of the center changed such that its mission became the development and motivation of recruiter trainees. The second group of subjects, then, was composed of 970 recruiters who went through the center after its focus had shifted from selection to development and motivation of recruiters. As with the 41 recruiters from Borman's original sample, the criterion performance measure was number of enlistees recruited during the first year of recruiting duty. Predictor measures in this group included cold calls and interviews combined into one exercise repeated twice (once with a "hard-sell" candidate, and once with a candidate more amenable to military enlistment), an in-basket exercise, a 5-minute speech about the Army, and training school grades.

In the small sample from the original assessment center, ratings on cold calls, interviews, and in-basket exercises all had low, non-significant correlations with job performance. In the larger development center sample, scores on the "hard sell" interview and the 5-minute speech were significantly related to job performance. In addition, multiple regression analyses in the larger group revealed that single most important factor in predicting an individual recruiter's performance was the average performance of his or her battalion.

In both groups, recruiter school grades also were not predictive of job performance. Scores on the Navy recruiter selection test (scales for human relations, selling, and organizing scales) had moderate relationships with job performance. Two personality scales (sociability and cautiousness) were also moderately related to recruiters' job performance. In general, the conclusion of Weltin et al. was that "rather than using the assessment center ratings to screen out potentially good recruiters, we should concentrate our research efforts on developing sales training technologies that make the recruiter's training more effective and motivating."

Borman, W. C., Rosse, R. L., & Rose, S. R. (December 1984). *Inventory battery to predict performance in Navy officer recruiting: Development and validation* (NPRDC-TR-85-13). San Diego: Navy Personnel Research and Development Center.

Like enlisted recruiters, officer recruiters are generally not well matched to recruiting duty. Until assignment to recruiting duty, they have been selected and trained for line and staff duties that, by and large, do not prepare them for a sales job. As is the case with enlisted recruiters, an inexpensive, effective screening device is needed to identify officers who are potentially successful recruiters. The goal of this work was to develop assessment devices for officer recruiters on the job, and to develop and validate a paper-and-pencil instrument for selecting future officer recruiters. Based on extensive work done with enlisted recruiters, behavior-based performance rating scales were developed for officer recruiters. Predictor composites based on the enlisted work were tried out and subsequently revised to make them more suitable for predicting officer recruiting success. Results suggest that successful officer recruiters have a history of past sociability, tend to be hard-working and ambitious, push themselves hard, are strongly oriented towards activities with other people, like to be close to others, are spontaneous and fun-loving, and are especially interested in jobs and activities that require extraversion, dominance, responsibility, and leadership. Although similar in many ways to successful enlisted recruiters, there were enough differences that the authors thought development of a separate officers' scoring key was warranted for the selection battery. The officer key correlated .41 with officer performance ratings. The authors caution that this is not a cross-validated correlation, and suggest further work involving a predictive design.

Atwater, D. C., Abrahams, N. M., & Trent, T. T. (May 1986). *Validation of the Marine Corps Special Assignment Battery (SAB)* (NPRDC-TR-86-18). San Diego: Navy Personnel Research and Development Center.

The goal of this work was to gather additional information on the validity of the Special Assignment Battery (SAB) for selecting U.S. Marine recruiters prior to operational implementation. The SAB is the proper name of the inventory developed by Borman and colleagues under contract to NPRDC, and previously described in the literature as a recruiter selection instrument. Two studies were conducted; the first was a concurrent validity design using over one thousand Marine recruiters. The second was a predictive study where Marines being considered for recruiter school assignment were tested with the SAB, although their scores did not influence their selection.

In the concurrent study, a significant relationship was observed between SAB scores and two performance measures (average monthly production and supervisors' ratings). Recruiters who scored low on the SAB enlisted fewer recruits and earned lower ratings from their supervisors than did recruiters with higher SAB scores. Similarly, higher SAB scores were associated with higher production and higher ratings by supervisors.

In the predictive study, Marine Corps recruiters who had the lowest SAB scores not only had the lowest average production; they also exhibited the highest rate of failure to complete their tour of recruiting duty. In this sample, increases in production rose even more sharply with increases in SAB scores than in the concurrent sample.

Zellweger, J. E. (December 1986). *Profile of the successful recruiter* (Master's thesis). Monterey, CA: Naval Postgraduate School.

This thesis used expert systems software to develop and analyze a model to identify characteristics of a successful recruiter. In this application, the author gathered information from five experts within the U.S. Army Recruiting Command; both production recruiters and managers were included. An expert system was created to represent each person's unique expertise. These systems all indicated a significant amount of agreement about what makes a successful recruiter. The most important overall dimensions were judged to be personality characteristics, communications skills, and specific previous experience. Within these dimensions, the most important specific attributes were judged to be integrity, motivation, listening, informing, previous sales experience, previous recruiting experience, and good recruiter training. The author recommends additional work to investigate the utility of a system that examines additional recruiter characteristics, or one that considers regional differences (ethnic balance, propensity to enlist, etc.) separately.

Borman, W. C., Russell, T. L., & Skilling, N. J. (May 1987). *Development of behavior-based scales and analysis of recruiter selection battery data for the Army recruiter job* (ARI-RR-1441). Alexandria, VA: U.S. Army Research Institute.

Behaviorally anchored rating scales that were originally developed by Borman and his colleagues (1976, 1979, 1981) for use in selecting and evaluating Navy and Marine Corps recruiters were adapted for use with Army recruiters. Results suggest that the eight dimensions of the recruiter job identified in the Navy work are also useful in describing the Army recruiter's job. The authors conclude that the performance rating scales can and should be used for research requiring criterion measures of recruiter performance. The ratings could also be used for assessment before and after professional development opportunities. In addition, the predictor battery developed for use in identifying potentially successful Navy and Marine Corps recruiters was tested as a predictor of success as an Army recruiter. Although the Army results were very similar to results obtained in the Navy and Marine Corps samples, the authors caution that several substantial differences exist between the groups. In summary, it appears that the predictor battery developed for the Navy and Marine Corps might be successfully used for selecting Army recruiters, but it must first be properly validated for that purpose.

Russell, T. L., & Borman, W. C. (April 1987). *Predicting military recruiter effectiveness: A literature review* (ARI-RN-87-23). Alexandria, VA: U.S. Army Research Institute.

This report, part of the work done by Borman and his colleagues under contract to the Army, is an excellent summary of research in selecting military recruiters through the mid 1980s. In addition, the authors provide an extensive section on research done in civilian sales jobs and link those findings to the problems involved in identifying potentially successful military recruiters.

Gandolfo, R. R. (June 1987). *Profile of the successful recruiter* (Master's thesis). Monterey, CA: Naval Postgraduate School.

This work is a follow-on attempt to Zellweger's development of a computer-based expert system to identify potentially successful recruiters. Expert systems were created representing the judgments of 16 regular Army and Army Active Guard and Reserve recruiter experts; in addition, a

composite system was created, which represented the combined judgment of all 16 experts. The most important overall dimensions in recruiter success as identified by the expert systems were communication skills, personality characteristics, behavior characteristics, and demographic variables. Within these dimensions, the most important specific characteristics were judged to be integrity, listening skills, informing skills, persuasiveness, AFQT score, family support, being a self-starter, and an extraverted personality style. The author suggests that this model should be field-tested and, based on those results, revised as necessary. The author also suggests that this methodology can be applied to many personnel selection problems that require consistent, objective decisions, but where objective performance criteria are difficult to measure.

McMenemy, J. P. (November 1987). *Management, selection, and training of recruiters in Australia, Canada, New Zealand, the United Kingdom and the USA* (TTCP-UTP-3). Washington, DC: The Technical Cooperation Program. Canadian Defence Research Staff.

As reported in this paper, which combines information from Australia, New Zealand, the United Kingdom, Canada, and the U.S., the United States armed forces are the only ones that have conducted any formal research in recruiter selection. What has happened, however, is a surprising amount of convergent evolution of recruiter selection criteria in the TTCP countries. In general, all countries are looking for the following characteristics in their military recruiters: (1) age 25-40; (2) promotion potential; (3) either married or single, but no substantial family problems; (4) good health and appearance; (5) at least average mental ability; (6) past conduct good to excellent; (7) valid driver's license; (8) freedom from financial problems; (9) interested or active in sports; (10) volunteers preferred; and (11) outgoing and articulate personality.

Weiss, H. M. (July 1988). *Evaluation of recruiter performance measures and policy* (ARI-RR-1485). Alexandria, VA: U.S. Army Research Institute.

This report documents the first stages of an effort to: (1) find an agreed upon definition of recruiter success, (2) develop an appropriate criterion measure of that success, and (3) design an experimental Recruiter Selection Battery (RSB-X). Interviews with U.S. Army Recruiting Command personnel clearly indicated that success is "making mission with integrity." Specific measures of success were defined: mission achievement, Delayed Entry Program (DEP) losses, "zero rollers" (recruiters who consistently fail to make mission), number of recruiting awards received, and reasons why recruiters have been relieved. Predictor variables were RSB-X (the recruiter selection battery developed by Borman and colleagues for selection of Navy and Marine Corps recruiters), TABE (Tests for Adult Basic Education-- vocabulary portion), CAST (the Army's Computerized Adaptive Screening Test), demographic information (race, sex, age, and education), and performance in the Army Recruiter Course (ARC). Review of these data elements led to the conclusion that enough information was available to proceed with an evaluation of RSB-X and related predictor information.

Weiss, H. M., Citera, M., Finfer, L. (March 1989). *Evaluation of an Army recruiter selection program* (ARI-RR-1514). Alexandria, VA: U.S. Army Research Institute.

An experimental recruiter selection battery (RSB-X) was administered to over 400 students entering the Army Recruiter Course in May and June, 1985. Criterion measures included: total recruits signed, total performance in comparison to mission, total Delayed Entry Program (DEP)

loss, number of recruits acquired in key categories, performance in comparison to mission in key categories, DEP loss in key categories, awards data, and whether recruiters remained on duty after two years.

In general, the ability of the RSB-X to predict criterion measures was weak. Neither personality nor background data were shown to be useful in predicting either performance or turnover. Although the predictive utility of RSB-X seems very limited, the authors feel that a valuable database has been generated; this database could be used to conduct other recruiter selection analyses, and to provide hypotheses for future selection inventories.

Lorry, N. M. (March 1989). *Design of a recruiter expert system* (Master's thesis). Master's thesis: Naval Postgraduate School.

This thesis represents another application of expert systems methodology to the problem of recruiter selection. In this work, minimum recruiter requirements as detailed in the Enlisted Transfer Manual were combined with ratings of personality characteristics and a measure of Navy need to fill the recruiter billet to produce an indicator of the probability of recruiting success. A prototype system was produced which yielded accurate "recommendations" in approximately 75 percent of cases when applied to a test sample of 29 recruiters already on duty in Los Angeles.

Baker, H. G., Somer, E. P., & Murphy, D. J. (June 1989). *Navy recruiter survey: Management overview* (NPRDC TR-89-16). San Diego: Navy Personnel Research and Development Center.

Over 3000 production recruiters responded to a survey about the quality of work life for Navy recruiters. Information gathered from these recruiters is discussed under the following subjects: personal characteristics, family status, career plans, selection and training, station assignment and work environment, goaling, incentives and awards, career development, quality of life, the recruiting product and advertising, and organizational support. Major findings include: (1) recruiters believe there are problems in the recruiter selection procedures; (2) recruiters believe they received inadequate training for their jobs; (3) there was a strong feeling that existing goaling procedures (the Freeman plan) brought on considerable job stress; (4) a majority of respondents felt that performance evaluations were too heavily based on recent failures, rather than reflecting a past record of success; and (5) recruiters felt that the Navy has a favorable image, but too few prospective recruits are knowledgeable about it. Changes recommended by recruiters included: (1) recruiters should get extra credit toward promotion; (2) only volunteers should serve on recruiting duty; (3) all recruiting duty time should be counted as sea duty; (4) leaving recruiting before end of assigned tour should not have a negative impact on careers; (5) recruiting tours should be 2 years; (6) prospective recruiters should be given a realistic job preview; (7) the Navy should have a more aggressive advertising campaign; and (8) paperwork should be reduced.

Benedict, M. E. (July 1989). *The soldier salesperson: Selection and basic recruiter training issues in the U.S. Army* (ARI-RR-1534). Alexandria, VA: U.S. Army Research Institute.

This report summarizes a long-term effort by the Army to evaluate recruiter selection and training procedures. It was concluded that tests for selecting field recruiters have only minimal usefulness. No further research in this area is recommended until two things occur: (1) the recruiter's job

is perceived as a valuable and desirable job to have, and (2) only a small proportion of total recruiter applicants need be selected. The Army Recruiter Course is seen as being highly effective in delivering its assigned instruction.

Russell, A. M. (December 1989). *Validation of the Navy Recruiter Selection Test Battery (RTSB)* (Master's thesis). Monterey, CA: Naval Postgraduate School.

In the thesis, the utility of the Special Assignment Battery (SAB), developed by Borman and colleagues, was re-evaluated for its utility in predicting success as a recruiter. Subjects were 236 recruiters who had taken SAB in recruiter school. Reported results are very different from those obtained by previous SAB researchers. For example, it is observed in this work that recruiters with higher scores on the human relations and organizing scales have lower production than do low scorers on human relations and organizing skills. Another negative correlation was found between AFQT scores and production: recruiters with higher ability levels tended to have lower production. Another finding was that, compared to racial or ethnic groups, Caucasian recruiters had lower production success. A finding consistent with earlier studies was that recruiters with previous experience as career counselors had higher levels of success than recruiters without that experience. The author suggests that SAB cannot be used for recruiter selection with any amount of certainty, and further suggests that the only personal characteristic that has the possibility of being useful in recruiter selection is previous experience as a career counselor. Based on the number and type of assumptions made in this thesis regarding data collection and analysis, results appear inconclusive.

Aunins, A. E., Sander, K. E., Giannetto, P. W., & Wilson, S. J. (March 1990). *Navy Recruiter Survey: Content analysis of free response data* (NPRDC-TN-90-14). San Diego: Navy Personnel Research and Development Center.

This report presents overall findings based on content analyses of free form responses to the Navy Recruiter Survey conducted in 1989, to which over 3000 production recruiters responded. This survey solicited recruiter's opinions about a broad array of factors that affect the quality of a recruiter's life; only those findings that pertain to recruiter selection are summarized here: (1) only E-6s and above should be assigned to recruiting duty; (2) every prospective recruiter should visit a recruiting station, talk to both successful and unsuccessful recruiters, and learn about support and facilities for families; (3) recruiting duty is best for those with eight or fewer years in the Navy; (4) more recruiters should be assigned to the field; (5) the Navy should use sales selection tests; (6) only personnel in the upper mental groups (Categories I and II) should be assigned to recruiting so they can talk to high-ability applicants on their own level; (7) the Navy Recruiting Command should have a team for "recruiting recruiters," going from station to station, seeking out and interviewing the best qualified people, and (8) recruiters should be volunteers.

IMPLICATIONS

Researchers seeking to identify predictors of military recruiter success face a strange paradox--nearly twenty years after the inception of the all-volunteer force, most military recruiters are in their jobs involuntarily. With the exception of the Air Force, military recruiters are primarily "drafted" into recruiting duty. Many of these recruiters subsequently report that the job is the most

stressful assignment they have ever had in the military--they are frequently far from military support facilities (commissary, hospital, etc.), working cruelly long hours, and trying to function in a constantly changing, if not purely chaotic, environment. At the same time, recruiters must try to find enough time on their own to stay current in their basic job field, and to study for advancement exams in that field; this obviously puts them at a competitive disadvantage with people who are working full-time as electronic specialists, sonar technicians, etc. To make matters worse, recruiters have their military performance evaluations completed as though they were still working in their usual job specialty, rather than reflecting their performance as recruiters. Finally, recruiters who were excellent performers in their own job fields, but who did poorly as recruiters, return to their own specialties feeling like (and sometimes labeled as) failures (Baker et al., 1989). Since it is generally well known in the military that these are the facts of a recruiter's life, it is little wonder that few military people volunteer for recruiting duty.

The above points become even more important when one considers that recruiters are essentially sales representatives; however, they are sales representatives who live and function in an environment very different from almost every other type of salesperson. Benedict (1989) has provided a thoughtful summary of some of the major differences:

It has long been said in private industry that the best sales personnel self-select into such jobs. Having dealt with the hiring of sales personnel in the past, the majority of individuals I have interviewed reported that they were working in sales because their salaries were directly linked to their own abilities and effort and that their success was measured by how much money they make. The more they sold, the more they earned. Sales personnel in the Armed Forces (the recruiters) have no such opportunities for direct monetary rewards based on sales success. Success is measured by their recruiting youth who enter into active duty. Success will not guarantee promotion, with its related salary increase, but the lack of success will generally have a negative effect on the careers and lives of such recruiters.

In addition, military recruiters are different from most sales personnel in another major way. Most sales personnel are selling a product--be it a car, a house, an insurance policy, or something else. In contrast, military recruiters are selling an entire life-style, including where people will live, how often they will move, what amount of family separation they will face, etc., for a 2- to 6-year commitment.

What we see then, are involuntary salespeople in a very stressful environment, selling a highly unusual product, receiving none of the traditional rewards of sales success, being rated on jobs they are not performing, and ultimately returning to specialties in which they have lost ground. What is needed is an approach to recruiter management that takes into account the fact that recruiter selection is not a stand-alone problem. To select well, it is necessary to understand the job requirements and demands. To place the best recruiters in the field, recruiter training must be linked to recruiter selection and job performance standards. To rate performance fairly, it is necessary to assess performance on the job people were selected, and are expected, to do. To develop a volunteer recruiting cadre in the all-volunteer force, recruiting must be seen as a desirable, career-enhancing assignment.

The research summarized earlier in this report has already suggested some approaches to various parts of the overall problem, among them selection for actual job duties, completion of a thorough analysis of the recruiter's job, appraising performance on the same criteria that guided selection, differential recruiter assignment, expansion of the selection pool, and the application of expert systems technology to recruiter selection. These will be briefly discussed in the following paragraphs.

Selection for Actual Job Duties

Since in the early 1970s, there has been a recognition that recruiter selection, like any personnel selection procedure, should be based on an understanding of the actual job duties to be performed (Maier, 1971; Arima, 1976). However, potential recruiters are still essentially "negatively selected;" they are chosen because they lack disqualifying characteristics, rather than because they have qualifying characteristics. For example, to meet minimum requirements for assignment to Navy recruiting, people must not: (1) be overweight, (2) have any special medical care needs for self or family, (3) have serious financial or family problems, (4) have any speech defects or other communication problems, (5) have a history of treatment for alcohol or drug abuse, or (6) have a history of being a military discipline problem (Lorry, 1989). Such a selection procedure functionally has as its criterion the double-negative concept of being "not unqualified." In direct contrast, the best selection procedures would take into account the characteristics that are required to perform essential tasks in the recruiter's job and would assess potential recruiters in terms of how likely they are to successfully perform those essential job tasks.

While it may be very important to ensure that people who cannot meet the above criteria are not assigned to recruiting duty, it should be recognized that such information (which can be obtained from a review of personnel records) is, at best, a screening tool. Such a screening review of potential recruiters should serve only to eliminate those who are clearly unqualified; it should not be confused with a well-developed selection instrument which would identify the best qualified people within the group that passed the initial screening procedure.

Job Analysis

Job analysis is directly and crucially related to the issue of selection based on actual job duties. As Arima (1976) stated so clearly, a thorough analysis of the recruiter's job is the essential cornerstone of a selection instrument. Without an understanding of the specific elements of a job, it is nearly impossible to design an instrument that will effectively identify people who will do that job well. In the case of military recruiters, this work was begun some time ago by Borman and his colleagues (1976); their work, which involved development of a selection instrument based on a comprehensive job analysis, was in many ways a landmark in the field of recruiter selection. However, that work is now more than ten years old, and there is reason to believe that the recruiter's job may have changed significantly since the early years of the all-volunteer force. The Department of Defense, for the first time in nearly 50 years, is moving into a peace-oriented, fiscally constrained, down-sizing environment. At the same time, weapons systems are becoming ever more sophisticated. Every enlistee becomes individually important to the effective performance of tomorrow's military. What is needed now is a thoroughly updated analysis of the recruiter's job, as it is now, and as it is anticipated to be as we move into the next century.

Performance Appraisal

At least in the Navy, there is a pervasive feeling among recruiters that their performance ratings are both unfair and unrelated to the job they perform (Baker, Somer, & Murphy, 1989; Aunins, Sander, Giannetto, & Wilson, 1990). Recruiters are rated within the Navy Recruiting Command on how many enlistees they produce per month. This alone is cause for recruiters' concern. Many of them feel that the current way of evaluating recruiter production has two major weaknesses. One of these weaknesses is that ratings do not reflect the differential value of various enlistees to the military. One way of addressing this concern might be to give recruiters credit for the total number of enlistee-years they produce. A further refinement of this idea might be to develop an indicator of the overall value of an enlistee that would be the mathematical product of years enlisted times an index of recruit quality such as information drawn from the SCREEN table or the Odds for Effectiveness table; recruiters' production would then be the sum of value indices for all the recruits they enlisted. The other major concern of recruiters is that the current system is unduly weighted by current failures and does not reflect previous successes. One possibility would be a larger problem may be that recruiters' military performance evaluations (which become part of their permanent personnel files) are filled out as though they were working in their basic job fields. So recruiters, who are working hard every day to do the best possible job of recruiting, have their performance evaluations completed as though they were, for example, full-time sonar technicians. Beyond the fact that this is cause for concern among recruiters, some consideration should be given to whether it is ethically sound both to file performance ratings for people based on jobs they are not doing, and not to conduct performance ratings for the jobs that they are doing.

Performance appraisal is another area where a thorough, up-to-date job analysis could make an invaluable contribution. Such an analysis of the recruiter's job could be the basis of an entire integrated system, wherein people are selected based on how likely they are to succeed in specific elements of the recruiter's job, trained to enhance selection, coached as necessary in specific job techniques and skills, and ultimately rated on how well they are performing the job elements they were selected to do.

Differential Assignment

Although this concept has only been discussed in two of the papers reviewed in this bibliography (Bennett & Haber, 1973; Elig, Gade, & Johnson, 1983), the evidence seems to offer strong support for the idea of matching recruiters to specific areas. Much like the initial enlistment processes, recruiter assignment under this concept would actually involve two sets of decisions: (1) selection of a person for recruiting duty, based on the best available procedures, and (2) assignment of each recruiter to the geographical area in which that individual is likely to be the most successful. Such differential assignment could be based on characteristics already shown to be related to recruiter success: location near home of origin, and assignment to an area where potential enlistees are similar to the recruiter (ethnic background, socio-economic status, average educational level, etc.). The effectiveness of differential assignment could be increased by research designed to investigate additional "matching" characteristics for recruiters and assignment areas.

Expansion of the Selection Pool

A point that has been made many times (Wollack & Kipnis, 1960; Wilkenson, 1964; Maier, 1971; Abrahams, Neumann, & Rimland, 1973) is that it will not matter how powerful a selection instrument is developed as long as essentially all minimally eligible people are being assigned to recruiting. For a selection instrument to be operationally useful (in addition to being theoretically valid), the applicant pool must be large enough that only those judged as highly qualified need be selected. At least one means of expanding the selection pool has been suggested by Abrahams et al. Those researchers suggest that there may be many people who would be excellent recruiters who may have thought about it and judged themselves to be unqualified, or who may never even have considered duty as a recruiter. One way of reaching these people would be to administer recruiter qualifying tests as part of standard paperwork at the first reenlistment. Those who appear qualified for recruiting duty could then be contacted and given additional information; of those people, the ones who report an interest in recruiting duty could be maintained in a selection pool and specifically evaluated as recruiting billets become available. A further expansion of this concept is to administer the qualifying instrument as part of the out-processing paperwork for people who are leaving the military after one or two enlistments. At that point, people who evidence the potential to be successful recruiters could be encouraged to remain in the military to be successful in a field they might not have previously considered.

Expert Systems

In recent years, students at the Naval Postgraduate School (Zellweger, 1986; Gandolfo, 1987; Lorry, 1989) have investigated the possibility of applying expert systems technology to the problem of recruiter selection. The essential concept behind this approach is as follows: Most decision-making involves the application of judgment, values, intuition, and acquired expertise, in addition to a knowledge of facts. These non-factual components of decision-making can be drawn from multiple experts, analyzed, and reduced to an equation that will consider facts plus the combined non-factual expertise of experienced decision-makers. The computer software that both develops and delivers this "distilled expertise" is called an expert system.

Although these studies have posed interesting questions and investigated a new technology, results should be regarded as preliminary. In two of the studies, no validation against "real" criteria was conducted. Zellweger's work developed models based on interviews with five recruiting experts, and then evaluated the models in terms of how similarly they judged five hypothetical candidates for recruiting duty. Two of the hypothetical candidates were specifically developed to represent the extremes of qualified vs. unqualified, while the other three were designed to be just slightly above average except in three dimensions. On those three dimensions (personality characteristics, communication skills, and specific experience), the three hypothetical applicants were portrayed as being significantly above average. Not surprisingly, the "best" applicant was rated the highest, and the "worst" applicant was rejected. However, in the case of three "mixed information" applicants (the type of applicant most likely to occur in the real world), the various systems exhibited substantial disagreement. For example, two of those applicants were ranked as being clearly superior by one system and minimally acceptable by another. Probably the most useful information obtained in this work is not the systems generated, but instead is the information gathered from the experts about what qualities are associated with excellence in recruiting.

As in Zellweger's work, Gandolfo's systems (based on sixteen Army recruiting experts) were tested only by assessing how similarly the various systems evaluated twenty hypothetical candidates for recruiting duty. Again, some hypothetical candidates were constructed to appear as highly qualified, and some were constructed to appear as very unqualified (all, however, met minimum standards as defined by the Army). Again, most of the systems rated the "best" candidates very highly, and the "worst" candidates very poorly. However, as in Zellweger's findings, there were anomalies; two of the systems rejected one of the "best" candidates, and there were several disagreements about the rank ordering of acceptable candidates. This appears to be another case where the most valuable finding from the study is probably the experts' identification of traits and characteristics they believe to be typical of excellent recruiters.

Lorry's (1989) application of expert systems technology seems to have more promise than the other two studies. In this work, a computer-based system was developed to combine minimum Navy recruiter requirements with ratings of personality characteristics and a measure of how critical it was to the Navy to fill a particular recruiting billet. The resulting information is an index of the probability of recruiting success for a given individual. What is intriguing about this study is that Lorry produced a prototype of an automated system to assess how well a potential candidate meets minimum eligibility requirements for recruiting duty. Her vision was that the system could be implemented at the local command level to assess whether an individual should even be considered for possible assignment to recruiting. Recall that in the preceding discussion about selection for actual job duties, it was suggested that these minimum standards should be regarded only as screening criteria, and not confused with actual selection instruments. A system such as that proposed by Lorry might meet that need for early screening very effectively.

In general, three clear findings emerge from the preceding work: (1) selection of high-quality recruiters is a long-standing concern for the military, (2) there is a need for an integrated recruiter management program that has, as its lynchpin, a comprehensive and current job analysis, and (3) although much good work has been done, many challenges remain. Recruiters in the next decade will have as their job to staff the military of the 21st century. We must conduct research that will ensure that the very best possible people are placed in that job.

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